

# Kennedy Space Center Roadmap

Goal 1.0 Assure that sound, safe, and efficient practices and processes are in place for privatized/commercialized launch site processing.		
Establish a Presence (A) 1998-2002	Expand Our Horizon (B) 2003-2009	Develop the Frontier (C) 2010-2025
<p><b>Objective 1.1A</b> Provide Safe, Reliable, Cost Effective Processing Of Shuttle and ELV Launches (Loren Shriver)</p> <p><b>Strategies</b> S1.1.1 A - Increase Safety And Improve Reliability of Access To Space (L. Shriver) S1.1.1.1 A - Lead and support Shuttle Upgrades (J. Morgan) S1.1.1.2 A - Develop and deploy new safety and mission assurance concepts (T. Breakfield) S1.1.1.3 A - Assure improved, safe and efficient shuttle processing (B. Sieck) S1.1.2 A - Lower Cost of Shuttle Processing (B. Sieck) S1.1.2.1 A - Implement Shuttle processing and ground systems enhancements/upgrades (B. Sieck) S1.1.2.2 A - Privatize/Commercialize Shuttle (B. Sieck) S1.1.3 A - Ensure safe, reliable and lower costs of ELV services (B. Bruckner) S1.1.3.1 A -Consolidate management of ELV and provide launch management expertise (B. Bruckner)</p> <p><b>Objective 1.2A</b> Provide Safe, Reliable, Cost Effective Processing of ISS (Loren Shriver)</p> <p><b>Strategies</b> S1.2.1A - Assure ISS flight systems are adequately planned, processed, tested and verified from manufacturing through launch (T. Talone) S1.2.1.1A - Provide facilities and GSE to support ISS hardware processing (S. Francois) S1.2.2A - Assure successful ISS logistics support (K. Payne) S1.2.2.1A - Develop concepts for ISS on-orbit logistics support (A. Montgomery) S1.2.2.2A - Provide critical supplies for on-orbit ISS (A. Montgomery)</p>	<p><b>Objective 1.1B</b> Enable Safe, Low Cost Launches of Space Vehicles</p> <p><b>Strategies</b> S1.1.1B - Recognized leader in launch processing and management expertise S1.1.1.1B - Evolve facilities to multi-program use S1.1.1.2B - Enable commercial success for shuttle and ELV S1.1.1.3B - Provide world leadership in safety and mission assurance concepts</p> <p><b>Objective 1.2B</b> Enable Safe, Reliable, Cost Effective Processing of ISS</p> <p><b>Strategies</b> S1.2.1B - Commercial utilization of ISS S1.2.1.1B - Transition to contractor S1.2.1.2B - Develop insight role S1.2.1.3B - Monitor performance S1.2.2B - Improve ISS processes, reduce cycle time S1.2.3B - Implement on-orbit logistical concepts for ISS</p>	<p><b>Objective 1.1C</b> Enable Safe, Low Cost Launches of Space Vehicles</p> <p><b>Strategies</b> S1.1.1C - Recognized leader in launch processing and management expertise S1.1.2C - Provide world leadership in safety and mission assurance concepts</p> <p><b>Objective 1.2C</b> Enable Safe, Reliable, Cost Effective Processing of ISS</p> <p><b>Strategies</b> S1.2.1C - Assure contractor operations for ISS logistical missions are safe, efficient, and effective</p>

## Goal 2.0 Increase the use of KSC's operational expertise to contribute to the design and development of new payloads and launch vehicles

### Objective 2.1A

**Perform Advanced Launch Systems Development, Test, and Implementation (Loren Shriver)**

#### Strategies

- S2.1.1A - Utilize and advance KSC capabilities and expertise for the launch and processing of future vehicles (L. Shriver)
- S2.1.2A - Lower the life cycle cost of future vehicles (L. Shriver)
  - S2.1.2.1A - Partner with researchers and developers to design Future X vehicles (W. Wiley)
  - S2.1.2.2A - Make KSC the launch site for future vehicles Baseline X-34 for KSC for high mach flights as pathfinder for LFBB (L. Shriver)
  - S2.1.2.3A - Develop capability to fly technology test beds flights for KSC (W. Wiley)
  - S2.1.2.4A - Promote the use of X-34 as a testbed for shuttle upgrades technology and system development (J. Morgan)
- S2.1.3A - Enable the basing of RLV at KSC (W. Wiley)
  - S2.1.3.1A - Partner with industry, state and federal entities (W. Wiley)

### Objective 2.2A

**Perform Advanced Payload Processing Capability Development (Loren Shriver)**

#### Strategies

- S2.2.1A - Reduce payload processing cycle time from design concept to launch (B. Bruckner)
- S2.2.2A - Contribute to new payloads design and advanced planning (S. Bartell)
- S2.2.3A - Provide safe and efficient launch site processing (S. Francois)
  - S2.2.3.1A - Provide efficient integration of experiments for ISS Partners, including International Partners (S. Bartell)
  - S2.2.3.2A - Develop and implement payload processing and ground systems concepts/enhancements/upgrades (S. Bartell)
- S2.2.4A - Provide payload carriers to meet future agency and customer requirements (S. Smith)

### Objective 2.1B

**Enable the Reduction of Transportation Costs to low-Earth Orbit by an Order of Magnitude (\$10,000 to \$1,000 per lb.)**

#### Strategies

- S2.1.1B - Develop innovative Magnum booster facilities & operations concepts
- S2.1.2B - Perform research and development to reduce the cost of processing and launch of vehicles by an order of magnitude (e.g., advanced vehicle health monitoring systems, Smart GSE, and flexible test sets)
- S2.1.3B - Utilize and advance KSC capabilities for the test, processing, and launch of future vehicles (e.g., trailblazer, pathfinder, spaceliner and military space plane)

### Objective 2.2B

**Provide Agency Leadership in Safe, Efficient Testing and Processing of Payloads**

#### Strategies

- S2.2.1B - Enhance carrier capabilities to meet new customer initiatives
- S2.2.2B - Advance KSC capabilities for payload customers
- S2.2.3B - Provide rapid cycle approach for new payload process from design concept to launch
- S2.2.4B - Provide the capability to perform functional and interface operational check-out for ISS payloads

### Objective 2.1C

**Enable the Reduction of Transportation Costs to low-Earth Orbit by an Order of Magnitude (\$1,000 to \$100's per lb.)**

#### Strategies

- S2.1.1C - Test spaceliner
- S2.1.2C - Utilize and advance KSC capabilities for the launch and processing of future vehicles
- S2.1.3C - Perform research and development to reduce the cost of processing of vehicles by an order of magnitude
- S2.1.4C - Provide highly adaptive and flexible launch environment to reduce the cost of launch

### Objective 2.2C

**Push the Technology Edge of Payload Testing and Processing**

#### Strategies

- S2.2.1C - Develop new processing technologies for new payloads
- S2.2.2C - Advance KSC capabilities for payload customers

**Goal 3.0 Utilize KSC operational expertise in partnership with other entities (Centers, industry, academia) to develop new technologies for future space initiatives.**

**Objective 3.1A**

**Explore and Define KSC Roles in Moon/Mars Initiatives**

**(JoAnn Morgan)**

**Strategies**

S3.1.1A - Develop Moon/Mars capabilities (J. Morgan)

S3.1.1.1A - Establish partnerships with development centers (J. Morgan)

S3.1.1.2A - Identify and invest in new technologies where KSC expertise can be applied (J. Morgan)

S3.1.1.3A - Design, prototype and test concepts, capabilities and technologies to be applied to Moon/Mars missions: Identify key launch site capabilities unique to Moon/Mars initiative and begin to acquire long

lead items (S. Walker)

**Objective 3.2A**

**Apply Operations Knowledge & Expertise to Future Initiatives**

**(Loren Shriver)**

**Strategies**

S3.2.1A - Create new partnerships and relationships with other Centers, Agencies and space faring entrepreneurs (J. Morgan)

S3.2.2A - Explore partnerships to further develop Life Sciences in medical and environmental technology (I. Long)

S3.2.3A - Increase industry participation in NASA technology initiatives (S. Walker)

**Objective 3.1B**

**Provide Capability for Moon/Mars Initiatives**

**Strategies**

S3.1.1B - Provide launch base environment to process, test, and launch the Moon/Mars mission

S3.1.2B - Follow up on partnership commitments to develop capabilities for Moon/Mars mission execution

S3.1.3B - Develop logistics concepts for Moon/Mars initiatives

**Objective 3.2B**

**KSC Operations Knowledge and Expertise is an**

**Integral Part of Space Vehicle Design Process**

**Strategies**

S3.2.1B - Partner with space transportation developers to provide unique KSC expertise for the design, assembly and checkout phases of flight hardware

**Objective 3.1C**

**Assure KSC Provides a Significant**

**Contribution to the Moon/Mars & Beyond Missions**

**Strategies**

S3.1.1C - Develop techniques to support human missions for further solar system exploration

S3.1.2C - Partner design of space systems for travel beyond Mars

S3.1.3C - Provide long-term Moon/Mars logistics support

**Objective 3.2C**

**Apply KSC Operations Knowledge**

**& Expertise to Beyond Earth**

**Designs and Operations**

**Strategies**

S3.2.1C - Provide/partner earth base operations, solutions and expertise to space based crew and mission management

S3.2.2C - Provide/partner advanced development for return facilities and capabilities for crew and samples

**Goal 4.0 Continually enhance core capabilities (people, facilities, equipment and systems) to meet NASA objectives and customer needs for faster, better, cheaper development and operations of space systems**

**Objective 4.1A**

**Maximize customer satisfaction (Jim Jennings)**

**Strategies**

- S4.1.1A - Streamline and improve customer interfaces and relationships (J. Jennings)
  - S4.1.1.1A - Improve interfaces between NASA/KSC Base Operations & Program Operations (M. Jones)
- S4.1.2A - Provide effective integrated services (J. Jennings)
- S4.1.3A - Increase public awareness of KSC and NASA programs and goals (H. Harris)

**Objective 4.2A**

**Improve, Streamline, Enhance and Consolidate Core Capabilities (Loren Shriver)**

**Strategies**

- S4.2.1A - Define and implement KSC priorities for Lead Center and Center of Excellence efforts (L. Shriver)
- S4.2.2A - Align the use of facilities and institutional resources to support KSC and Agency priorities (L. Shriver)
- S4.2.3A - Improve the safety of work practices (T. Breakfield)
- S4.2.4A - Champion aggressive continuous improvement (J. Jennings)
- S4.2.5A - Measure customer satisfaction to target further development and improvements to Center of Excellence (J. Jennings)
- S4.2.6A - Focus personnel development and training to constantly improve our expertise and capabilities within our Center of Excellence (S. Roberts)
- S4.2.7A - Increase industry/institution awareness of KSC capabilities through aggressive outreach (J. Morgan)
- S4.2.8A - Consolidate and jointly manage base operations of KSC, CCAS, PAFB & Eastern Test Range (C. Fairey)

**Objective 4.3A**

**Establish a Recognized National Leadership Position for Business Processes and Environmental Stewardship (Jim Jennings)**

**Strategies**

- S4.3.1A - Re-invent and re-engineer KSC's enabling and business processes to achieve a leadership position (J. Jennings)
- S4.3.2A - Build effective future leadership for KSC (S. Roberts)
- S4.3.3A - Provide education and continual learning opportunities to foster an adaptable, flexible expert workforce (S. Roberts)
- S4.3.4A - Provide environmental stewardship (I. Long)
  - S4.3.4.1A - Provide cutting edge energy reduction techniques & practices (Jones)
- S4.3.5A - Develop insight role supporting performance based contracts (J. Hattaway)

**Objective 4.1B**

**Recognized as Most Customer Friendly Launch Center in World**

**Strategies**

- S4.1.1B - Further consolidate KSC, CCAS, PAFB & Eastern Test Range processes
- S4.1.2B - Measure customer satisfaction to target further development and improvements

**Objective 4.2B**

**Recognized Leadership in Core Capabilities**

**Strategies**

- S4.2.1B - Enthusiastically pursue assistance to space related operations or launches
- S4.2.2B - Continually concentrate on maintaining core capabilities at the leading edge of technology

**Objective 4.3B**

**Build on the Established Leadership Position to Remain World-Class**

**Strategies**

- S4.3.1B - Continue to measure customer satisfaction and benchmark to target further development and improvement of enabling functions

**Objective 4.1C**

**Continue to Seize Opportunities to Improve & Expand Customer Relations**

**Strategies**

- S4.1.1C - Partner in managing Eastern Launch Site as a multi-purpose spaceport
- S4.1.2C - Measure customer satisfaction to target further development and improvements

**Objective 4.2C**

**Provide Core Capabilities to a Space-faring Customer Base**

**Strategies**

- S4.2.1C - Continually concentrate on maintaining core capabilities at the leading edge of technology

**Objective 4.3C**

**Build on the Established Leadership Position to Become World-Class**

**Strategies**

- S4.3.1C - Continue to measure customer satisfaction and benchmark to target further development and improvement of enabling functions